Response to Amendment

This Office Action is in response to a communication made on December 4, 2009.

The Information Disclosure Statements received November 2, 2009 and December 4, 2009 have been considered.

Claims 2-3, 7, 12, 14, 18-19, 28, 29, 42, 43, and 45-47 have been cancelled.

Claims 1, 13, 17, 25, and 31 are currently amended.

Claim 48 has been newly added.

Claims 1, 4-6, 8-11, 13, 15-17, 20-27, 30-41, 44, and 48 are currently pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-6, 8-11, 13, 15-17, 20-27, 30-41, 44, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graupner (7035930) in view of Solden (7069204).

Regarding claims 1 and 25, Graupner teaches a method comprising:

using a system definition model design the system (Col. 5, lines 7 – 16), wherein the system is an application (Col. 3, lines 4 – 11) wherein the using comprises including,

in the system definition model, constraints that must be satisfied by an environment in order for the system to be run in the environment (Col. 5, lines 17-36);

subsequently using the system definition model in a deployment phase of the system to deploy the system on one or more computing devices (Col. 4, lines 26 – 29; Col. 8, lines 4 - 17); and

after deployment of the system, using the system definition model in a management phase of the system to manage the system deployed on the one or more computing devices (Col. 8, lines 4 – 17).

Graupner does not explicitly indicate the creating of the system definition model as the system is being designed or validating before the system during the design of the system whether the constraints are satisfied.

Solden teaches a modeling system that includes modeling and simulating systems that are being designed and proposed, and prior to any deployment of the actual application and system and wherein that model is simulated and checked for proper operation of the model in regards to various operation constraints (Col. 5, lines 27 – 34; lines 48 – 67; Col. 6, lines 49 – 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Graupner's system of optimization of a distributed application can also be applied to distributed application still in the design and proposition phase of development.

Regarding claims 17 and 31, Graupner teaches one or more computer readable storage media having stored thereon a plurality of instructions that when executed by a processor, cause the processor to:

using a system definition model design the system (Col. 5, lines 7 – 16), wherein the system is an application (Col. 3, lines 4 – 11); the system definition model includes a representation of an environment in which the application is to be deployed, and the using includes binding the application to the representation in the system definition model (Col. 4, lines 26 – 29; Col. 8, lines 4 – 17); model, the representation including definitions for hosts of the environment of their application components (Col. 3, lines 38 – 60);

subsequently using the system definition model in a deployment phase of the system to deploy the system on one or more computing devices (Col. 4, lines 26 – 29; Col. 8, lines 4 - 17); and

after deployment of the system, using the system definition model in a management phase of the system to manage the system deployed on the one or more computing devices (Col. 8, lines 4 – 17).

Graupner does not explicitly indicate the creating of the system definition model as the system is being designed or and constraints on the configuration of their applications.

Solden teaches a modeling system that includes modeling and simulating systems that are being designed and proposed, and prior to any deployment of the actual application and system and wherein that model is simulated and checked for

proper operation of the model in regards to various operation constraints (Col. 5, lines 27 – 34; lines 48 – 67; Col. 6, lines 49 – 56) including constraints based on the configurations of the applications running on the hardware models (Col. 6, lines 7 - 56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Graupner's system of optimization of a distributed application can also be applied to distributed application still in the design and proposition phase of development.

Regarding claim 4, Graupner teaches a method as recited in claim 1; using knowledge obtained during management of the system to design a subsequent version of the system (Col. 8, lines 4 – 17).

Regarding claims 5, 20, 26, and 32, Graupner teaches a method as recited in claims 1, 17, 25, and 31, wherein the system definition model includes knowledge describing how to deploy the system on the one or more computing devices (Col. 4, lines 26 – 29; Col. 8, lines 4 - 17).

Regarding claims 6, 21, 27, 33, and 44, Graupner teaches a method as recited in claims 1, 17, 25, and 31, wherein the system definition model includes knowledge describing how to deploy the system on multiple different computing devices, and wherein the knowledge includes different knowledge describing how to deploy the system on each of the multiple different computing devices (Col. 4, lines 26 – 29; Col. 8, lines 4 – 17; Col. 5, lines 17-36).

Regarding claims 22 and 34, Graupner teaches a method as recited in claims 17 and 31, wherein the system definition model includes constraints that must be

satisfied by the one or more computing devices in order for the system to be run on the one or more computing devices (Col. 5, lines 17-36).

Regarding claims 8, 23, and 36, Graupner teaches a method as recited in claims 7, 22, and 34, wherein the system definition model can be used to check whether the constraints are satisfied by the one or more computing devices during design of the system (Col. 5, lines 17-36).

Regarding claim 9 and 35, Graupner teaches a method as recited in claims 7 and 34; wherein the system definition model can be used to check whether the constraints are satisfied by the one or more computing devices during design of the system and during management of the system (Col. 5, lines 17-36).

Regarding claims 10, 24, 30, and 37, Graupner teaches a method as recited in claims 1, 17, 25, and 31, wherein the system definition model includes knowledge describing how to manage the system after deployment of the system (Col. 4, lines 26 – 29; Col. 8, lines 4 - 17).

Regarding claim 11, Graupner teaches a method as recited in claim 1, further comprising: during management of the system, using a flow to automatically propagate a configuration change to the system (Col. 8, lines 4 - 17).

Regarding claim 15, Graupner teaches a method as recited in claim 1, wherein a plurality of environments are deployed on the one or more computing devices, the method further comprising: using a plurality of different system definition models to design each of the plurality of environments, wherein each of the plurality of environments is associated with one of the plurality of different system definition

models; using, for each environment, the associated one of the plurality of different system definition models to deploy the environment; and after deployment, using, for each environment, the associated one of the plurality of different system definition models to manage the environment (Col. 5, lines 17 – 26).

Regarding claim 16, Graupner teaches a method as recited in claim 15, wherein each of the plurality of environments is layered, and wherein each of the plurality of environments serves as environment to one other of the plurality of environments or to the system (Col. 4, lines 7 – 17).

Regarding claim 38, Graupner teaches a system as recited in claim 31, wherein the system further comprises: another system definition model applicable across a lifecycle of an environment, wherein the lifecycle of the environment includes deployment of the environment, and management of the environment (Col. 4, lines 26 – 29; Col. 8, lines 4 - 17); and wherein the schema is further to dictate how functional operations within the other system definition model are to be specified (Col. 7, lines 54 - 59).

Graupner does not explicitly indicate the creating of the system definition model as the system is being designed.

Abu El Ata teaches a modeling system that includes modeling and simulating systems that are being designed and proposed, and prior to any deployment of the actual application and system (Col. 3, lines 39-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Graupner's system of optimization of a distributed application

can also be applied to distributed application still in the design and proposition phase of development.

Regarding claim 39, Graupner teaches a system as recited in claim 38, wherein the system definition model for the environment is derived through examination of the configuration of one or more computing devices (Col. 5, lines 53 – 67).

Regarding claim 40, Graupner teaches a system as recited in claim 38, wherein the system definition model includes constraints that must be satisfied by the environment in order for the application to be run on the environment, and wherein the other system definition model includes other constraints that must be satisfied by the application in order for the application to be run on the environment (Col. 5, lines 17-36).

Regarding claim 41, Graupner teaches a system as recited in claim 38, wherein the system further comprises: an additional system definition model applicable across a lifecycle of an additional environment, wherein the lifecycle of the additional environment includes design of the additional environment, deployment of the additional environment, and management of the additional environment; wherein the additional environment is layered below the environment; and wherein the schema is further to dictate how functional operations within the additional system definition model are to be specified (Col. 8, lines 4 – 17, where the entire model can be updated based on optimization including hardware clusters).

Regarding claim 48, Groupner teaches using another system definition model to design an environment, wherein the system is deployed to the environment on the one or more computing devices (Col. 3, lines 20 – 26);

subsequently using the other system definition model to deploy the environment one the one or more computing devices (Col. 4, lines 26 – 29; Col. 8, lines 4 - 17); and

after deployment of the environment, using the other system definition model to manage the environment deployed on the one or more computing devices (Col. 4, lines 26 – 29; Col. 8, lines 4 – 17);

wherein the system definition model includes constraints that must be satisfied by the environment in order for the system to be run on the one or more computing devices and wherein the system definition model includes constraints that must be satisfied by the system in order for the system to be run on one or more computing devices (Col. 5, lines 17-36).

Regarding claim 13, Graupner teaches a method as recited in claim 48, wherein the system definition model for the environment is derived through examination of the configuration of one or more computing devices (Col. 5, lines 53 – 67).

Response to Arguments

Applicant's arguments filed June 17, 2009 have been fully considered but they are not persuasive.

Response to Arguments

Applicant's arguments with respect to claims 1, 17, 25, and 31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN BATES whose telephone number is (571)272-3980. The examiner can normally be reached on M-F 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KEVIN BATES/
Primary Examiner, Art Unit 2456